

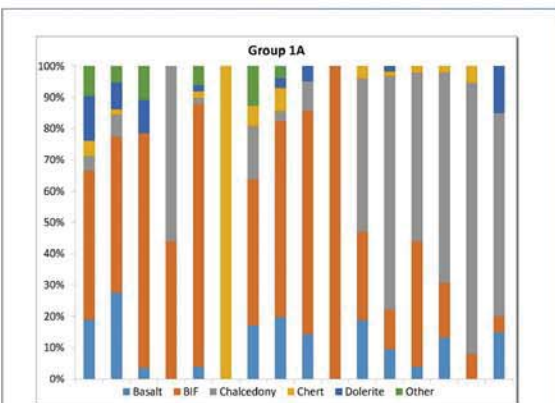
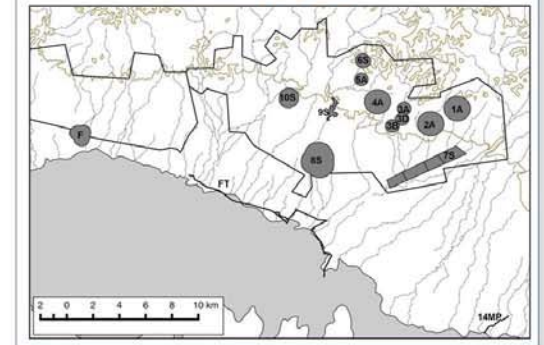
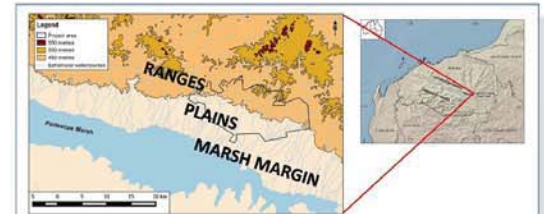
Issues of scale and resolution in interpreting surface artefact scatters in the inland Pilbara

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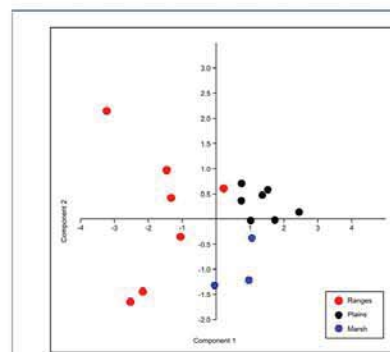
BACKGROUND

In the Christmas Creek project area, eastern Chichester Range, most individual surface artefact scatters are small and diverse in their characteristics. Moreover, isolated artefacts are common in the landscape. The definition of sites is essentially arbitrary. There is also a more or less continuous low density distribution of artefacts. These are recorded as isolated artefacts. Discrete sites are defined on the ground by exposure, density of artefacts and by topography. The small size of most artefact scatters means it is difficult to make sense of assemblage variability at the site scale.

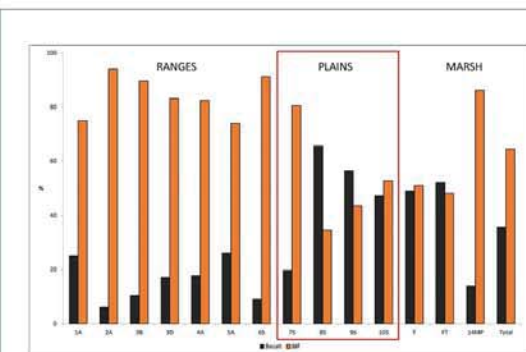
In this analysis we attempted to improve sample size by defining sample localities and pooling artefacts from both discrete sites and isolated artefacts analysis at a landscape scale. The Christmas Creek area can be broadly divided into the ranges, the plains and the margin of the Fortescue Marsh. Sample localities were defined in various ways to sample these landscapes.



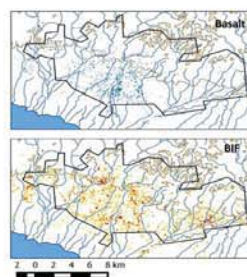
Individual sites are mostly small and extremely variable across the Christmas Creek area. This chart shows how variable raw material composition is for individual sites from Group 1A. Other assemblage attributes show similar variability.



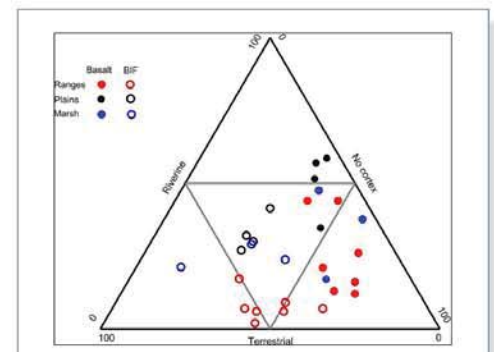
Principal Components Analysis was conducted on a range of assemblage characteristics other than raw material, including flake size, flake to core ratios, amount of core rotation. This shows that ranges, plains and marsh sample localities are demonstrably different.



Raw material composition for the grouped data indicates that all ranges assemblages are broadly similar and dominated by banded iron formation (BIF), while there is an east-west cline on the plains between basalt dominated and BIF dominated assemblages.



This east-west difference is clear from the overall distribution of isolated artefacts, with basalt more common in the west.



Analysis of cortex showed that cobbles from the creeks were the primary source for all plains assemblages, while ranges assemblages were more likely to come from quarries or thermally fractured bedrock outcrops.

CONCLUSIONS

Analysis at the landscape level showed that much assemblage variability in the Christmas Creek area could be interpreted in local terms according to whether the source material came from creeks or from terrestrial sources. The grouped locality data generated large enough samples to allow patterning on the landscape scale to emerge which was not obvious at the individual site scale.

IMPLICATIONS

This analysis raises issues about how to define 'sites' within the context of compliance archaeology and how to partition what is essentially a continuous archaeological record into appropriate units for analysis. Small size and assemblage diversity mean that many sites are difficult to interpret for stakeholders and can be dismissed as 'just surface scatters'. In Western Australia, this often results in the loss of such sites. Indeed, recent changes in the way the Aboriginal Heritage Act is administered mean that sites fall below an arbitrary threshold and may not even be recorded in future. Yet it is clear that even small artefact scatters contribute to interpretation of the local palimpsest and to a coherent regional understanding of past Aboriginal land use at a landscape scale.